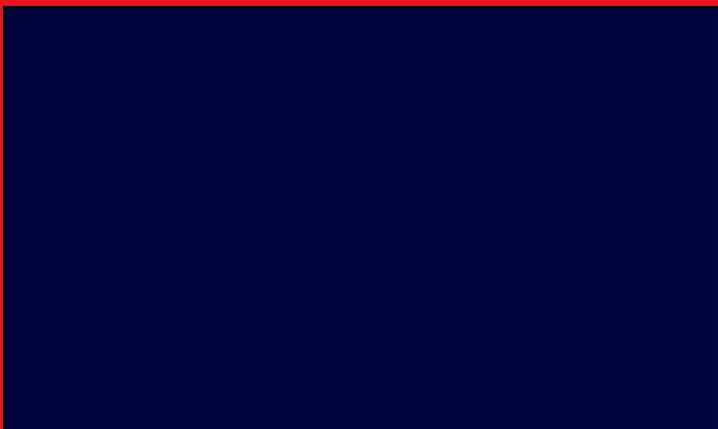


# *Hardware Reference Guide*

Compaq Deskpro EN Series of Personal Computers  
Slim Desktop Models



**COMPAQ**

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# **Hardware Reference Guide**

Compaq Deskpro EN Series  
of Personal Computers

Slim Desktop Models

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The following words and symbols mark special messages throughout this guide:



**WARNING:** Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

---



**CAUTION:** Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

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## ***Hardware Reference Guide***

### **Compaq Deskpro EN Series of Personal Computers Slim Desktop Models**

First Edition (October 2000)  
Part Number 178171-002

**Compaq Computer Corporation**

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# chapter 1

## INSTALLATION GUIDELINES

This guide explains how to remove the computer cover or access panel and install the following optional equipment upgrades:

- Additional system memory
- Expansion card
- Optional drive
- Security lock
- Replacement battery

This chapter includes information about the general installation sequence for Deskpro personal computers, and about when to reconfigure the computer to ensure that it recognizes the newly installed equipment.

### Installation Sequence

It is very important that you follow this sequence of steps to ensure the proper installation of any optional equipment.

1. If your computer includes the Smart Cover Lock feature and you have set the lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.

For more information about Computer Setup, refer to the *Computer Setup* guide.

2. If the computer is already on, turn it off and disconnect the power cord from the wall outlet.



**WARNING:** To reduce the risk of personal injury from electrical shock and/or hot surfaces, be sure to disconnect the power cord from the wall outlet, and allow the internal system components to cool before touching.

---



**WARNING:** To reduce the risk of electrical shock, fire, or damage to the equipment, do not plug telecommunications/telephone connectors into the network interface controller (NIC) receptacles.

---



**CAUTION:** Static electricity can damage the electronic components of the computer or optional equipment. Before beginning these procedures, ensure that you are discharged of static electricity by briefly touching a grounded metal object. Refer to Appendix E, "Electrostatic Discharge," for more information.

---

3. Open the computer by removing its outside cover. Refer to the procedures for removing the computer cover or access panel.
4. Install any optional equipment. Refer to the applicable sections of this guide or to the documentation provided with the optional equipment for instructions.
5. Replace the computer cover.
6. Turn on the monitor, computer, and any devices you want to test.
7. Reconfigure the computer, if necessary. Refer to the *Computer Setup* guide for instructions about using Computer Setup.

If you normally lock the Smart Cover Lock, use Computer Setup to relock the lock and enable the cover removal sensor.

## When to Reconfigure the Computer

System configuration is the process of specifying the devices and programs that make up a computer system. When you add or remove optional equipment, the computer must be reconfigured to recognize these changes.

Windows 95 and later operating systems automatically recognize all Plug and Play devices installed. However, if the device is not a Plug and Play device or is not automatically detected after installation, follow these instructions:

- In Windows 95 and later operating systems, select the Add New Hardware icon in the Control Panel and follow the instructions on the screen.
- To reconfigure the computer in Windows NT version 4.0, use the software utility provided with the newly installed hardware.

# *chapter* 2

## HARDWARE UPGRADES

### Serviceability Features

Your computer includes features that make it easier to upgrade and service.

#### Removing the Access Panel

The quick release cover latches, located near the rear on each side of the unit, allow easy removal of the access panel without the use of tools or thumbscrews.



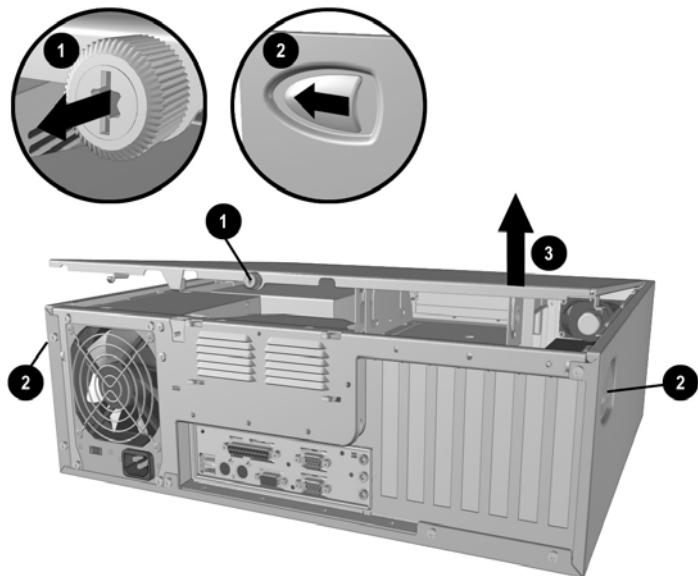
**WARNING:** Before removing the computer cover, ensure that the computer is turned off and that the power cord is disconnected from the electrical outlet.



If you have not already done so, you will need to loosen the silver shipping thumbscrew from the center of the rear panel before removing the cover.

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, then turn off the computer and any external devices.

3. Disconnect the power cord from the power outlet.
4. Loosen the retaining screw located on the back of the unit ①.
5. Slide the cover latches on the sides near the back of the computer ②.
6. Lift up the back of the access panel and pull it toward the back of the unit about 1 inch (2.5 cm) so the tabs on the front of the access panel clear the case ③. Lift the access panel up and off the unit.



*Removing the Access Panel*



The configuration label located inside the computer cover provides additional information.

Another label located inside the computer chassis provides information about diagnosing computer conditions using the power and hard drive LEDs.

## Rotating the Drive Cage

The rotating drive cage allows access to all drive bays for easy installation of additional drives, requiring no drive rails or brackets. With the drive cage rotated out from the chassis, you can easily connect the drive power and signal cables.

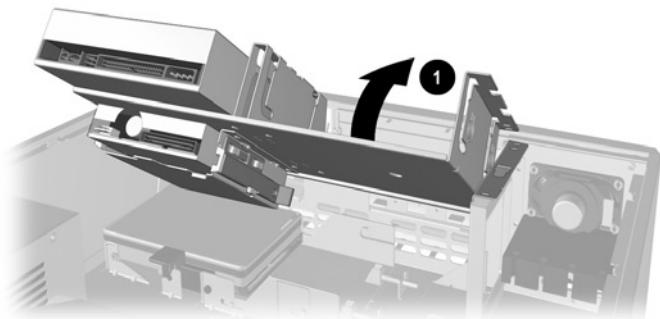


When installing optional drives, you must install guide screws to ensure the drive will line up correctly in the drive cage. Compaq has provided extra guide screws, installed in the bottom of the computer chassis, next to the power supply.



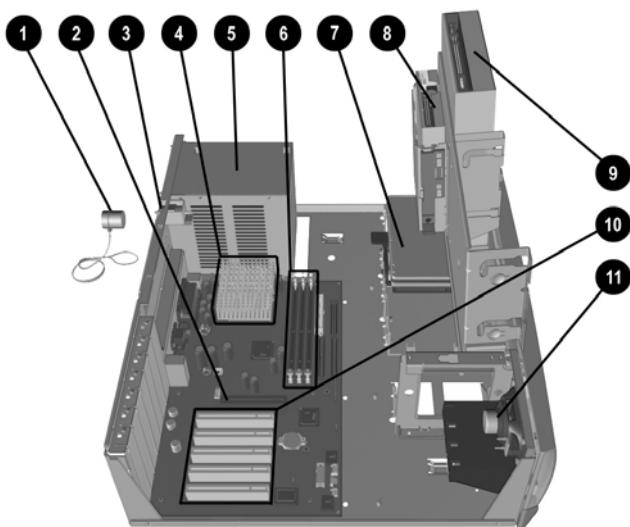
**WARNING:** Before removing the access panel, ensure that the computer is turned off and that the power cord is disconnected from the electrical outlet.

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, then turn off the computer and any external devices.
3. Disconnect the power cord from the power outlet.
4. Remove the access panel.
5. Grasp the back of the drive cage and rotate it to its upright position ①. The cage remains connected to the chassis.



*Rotating the Drive Cage to an Upright Position*

## Internal Components (Intel 815e Chipset)



*Internal Components in Intel 815e-Based Desktop Models*

- ① Cable lock (optional)
- ② AGP graphics slot
- ③ Smart Cover Lock
- ④ Processor
- ⑤ Power supply
- ⑥ Dual-inline memory module (DIMM) sockets
- ⑦ Primary hard drive
- ⑧ Diskette drive
- ⑨ CD-ROM drive
- ⑩ PCI expansion slots
- ⑪ Speaker

# Installing Additional Memory

The computer comes with synchronous dynamic random access memory (SDRAM) dual inline memory modules (DIMMs).

## DIMMs

The memory sockets on the Intel 815e chipset-based system board can be populated with industry-standard DIMMs. These memory module slots are populated with at least one preinstalled memory module. To achieve the maximum memory support, you may be required to replace the preinstalled DIMM with a higher capacity DIMM.

For proper system operation, the DIMMs must be industry-standard 168-pin, unbuffered PC100- or PC133- compliant SDRAM DIMMs, depending on the model. The SDRAM DIMMs must support CAS Latency 2 or 3 (CL = 2 or CL = 3). They must also contain the mandatory Joint Electronic Device Engineering Council (JEDEC) Serial Presence Detect (SPD) information. DIMMs constructed with x4 SDRAM are not supported; the system will not start using unsupported DIMMs.

The Intel 815e chipset supports both PC100 and PC133 SDRAM DIMMs. PC133 DIMMs should be used for optimal performance. If both PC100 and PC133 SDRAM DIMMs are installed in a computer, the system memory will run at the lower 100Mhz speed. Some configurations of PC133 SDRAMs may run at 100Mhz, instead of 133Mhz.

## Memory Module Installation



**CAUTION:** Your memory module sockets have gold metal contacts. When upgrading your memory, it is important to use memory modules with gold metal contacts to prevent corrosion and/or oxidation resulting from having incompatible metals in contact with each other.



**CAUTION:** Static electricity can damage the electronic components of the computer or optional cards. Before beginning these procedures, ensure that you are discharged of static electricity by briefly touching a grounded metal object. Refer to Appendix E, "Electrostatic Discharge," for more information.



**CAUTION:** When handling a memory module, be careful not to touch any of the contacts. Doing so may damage the module.

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, then turn off the computer and any external devices, then disconnect the power cord from the power outlet.
3. Remove the access panel and locate the memory module sockets.

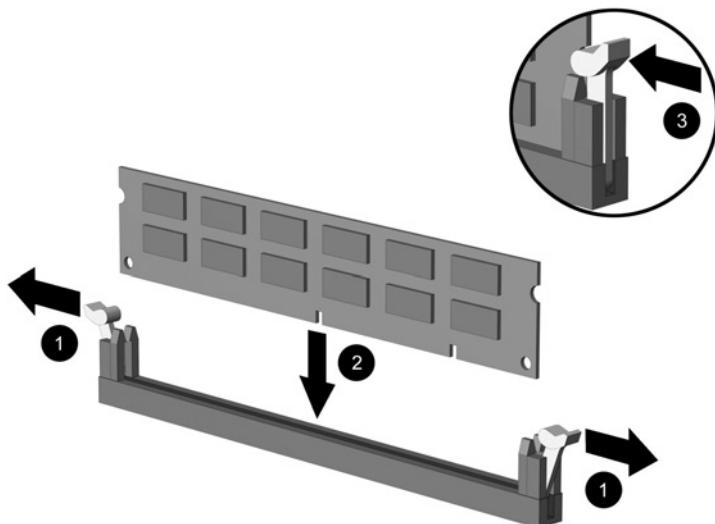


**WARNING:** To reduce risk of personal injury from hot surfaces, allow the internal system components to cool before touching.

4. Open both latches of the memory module socket 1, and insert the memory module into the socket 2.

Begin by installing a module into the socket nearest the preinstalled module, and install the modules following the numerical order of the sockets.

A memory module can be installed in only one way. Match the notch on the module with the tab on the memory socket. Push the module down into the socket, ensuring that the module is fully inserted and properly seated 3.



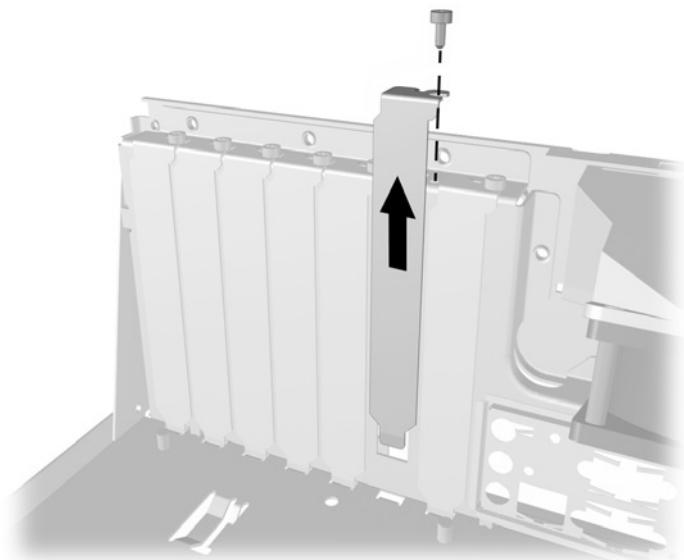
*Installing a DIMM*

# Installing an Expansion Card

Your computer contains expansion slots, as shown in the “Internal Components” section of this chapter. Each slot can accommodate an expansion card up to 6.88 inches (17.48 cm) in length.

## Removing an Expansion Slot Cover

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, turn off the computer and any external devices, then disconnect the power cord from the power outlet.
3. Remove the access panel.
4. Locate the correct vacant expansion card slot on the back of the computer.
5. Remove the screw at the top of the expansion slot cover, then remove the expansion slot cover from the slot as illustrated.

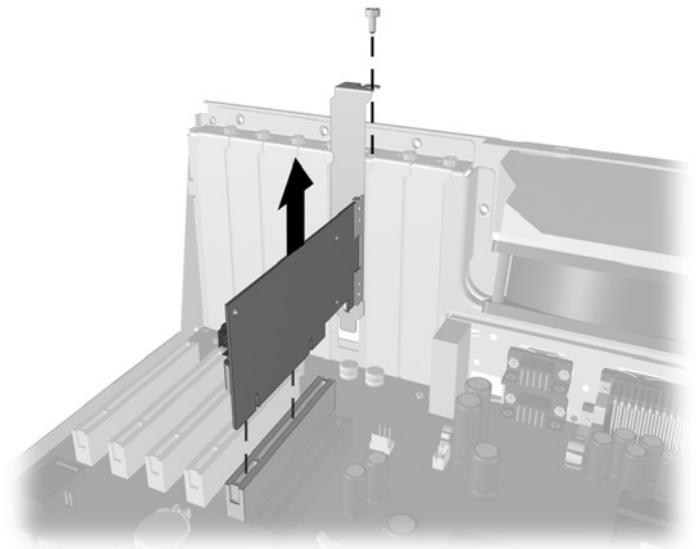


*Removing a Screw and Expansion Slot Cover*

## Removing or Installing a PCI Card

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, turn off the computer and any external devices, then disconnect the power cord from the power outlet.
3. Remove the access panel.  
If installing an expansion card, skip to step 9.
4. To remove an expansion card, disconnect any cables attached to the expansion card.
5. Remove the screw at the top of the expansion slot.
6. Hold the card at each end and carefully rock it back and forth until the connectors pull free from the slot. Be sure not to scrape the card against other components.
7. Store the card in anti-static packaging.
8. Install an expansion slot cover or new expansion card to close the open slot.  
If not installing a new expansion card, skip to step 13.
9. To install a new expansion card in an open slot, remove the expansion slot cover.

10. Slide the expansion card into the expansion slot and press it firmly into place.



*Removing or Installing an Expansion Card*

 When you install an expansion card, make sure you press firmly on the card so that the whole connector seats properly in the expansion card slot.

11. Replace the screw at the top of the expansion slot.
12. Replace the access panel.
13. Connect external cables to the installed card, if needed.
14. Reconfigure the computer, if necessary. Refer to the *Computer Setup Guide* for instructions about using Computer Setup.  
If you normally lock the Smart Cover Lock, use Computer Setup to relock the lock and enable the Smart Cover Sensor.

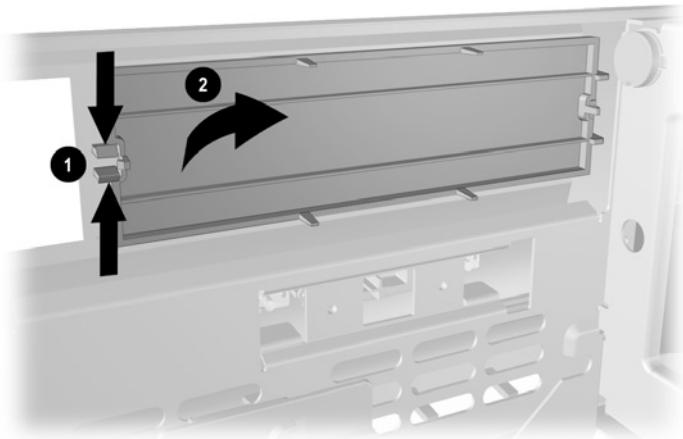
# Installing Additional Drives

When installing additional drives, follow these guidelines:

- Use the green pull tabs to disconnect the diskette and hard drive cables from the drives.
- For optimal performance, connect hard drives to the primary IDE controller. Connect expansion devices, such as IDE CD-ROM, tape, and diskette drives to the secondary controller.
- You must install guide screws to ensure the drive will line up correctly in the drive cage. Compaq has provided extra guide screws, installed in the bottom of the computer chassis, next to the power supply. Some options use M3 metric thread hardware. The Compaq-supplied metric screws are black.

## Removing a Blank Drive Bezel

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, turn off the computer and any external devices, then disconnect the power cord from the electrical outlet.
3. Remove the access panel and set it on a protected work surface.
4. Squeeze together the release catches ① to release the bezel blank, then remove the bezel blank ②.



*Removing a Drive Bezel*

## Installing a Diskette, CD-ROM, DVD-ROM, or Tape Drive

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, turn off the computer and any external devices, disconnect the power cord from the power outlet, and remove the computer cover.
3. Remove the bezel blank from the front bezel.
4. If you are installing a diskette drive, rotate the drive cage to the upright position.
5. Install two guide screws on each side of the drive.

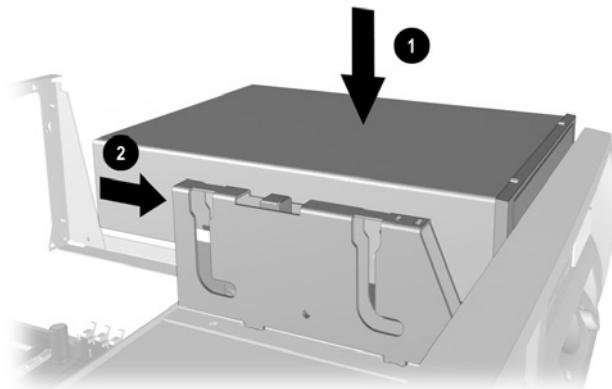


Some options use M3 metric thread hardware. Extra guide screws are provided on the bottom of the chassis, next to the power supply. The Compaq-supplied metric screws are black.

6. Install the drive in the desired drive bay by sliding it into the slots ① and toward the front of the computer ②.

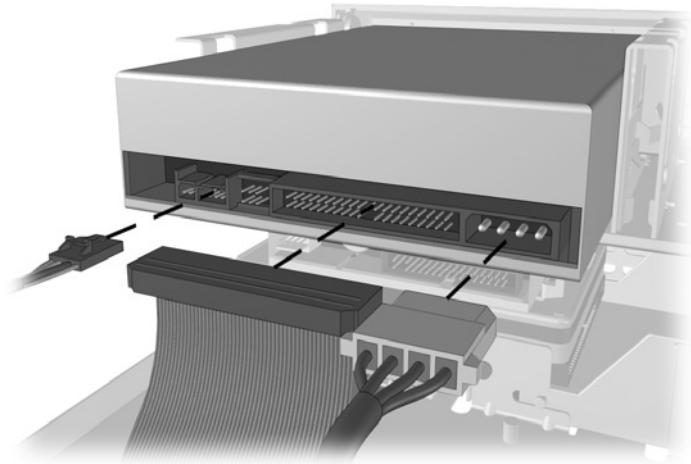


Be sure the guide screws line up with the guide slots in the drive cage.

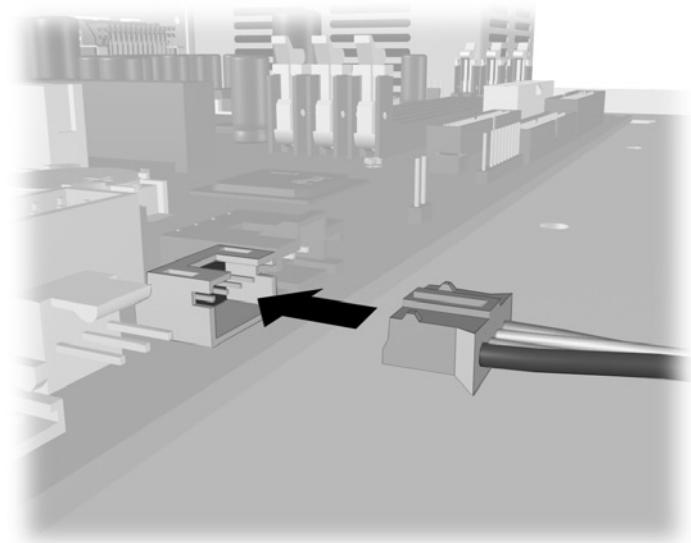


*Installing an Optional Drive (may vary)*

7. If installing a CD-ROM, DVD-ROM, or tape drive, rotate the drive cage to the upright position.
8. Connect the drive power and signal cables and, if it is a CD-ROM drive, connect the audio cable. The other end of the audio cable should be connected to the audio connector on the system board.



*Connecting the Drive Cables*



*Connecting the Audio Cable to the Audio Connector on the System Board*

9. Gently rotate the drive cage back into the computer chassis.



**CAUTION:** When returning the drive cage to its normal position, use extreme caution to prevent damaging the data and power cables.

10. Replace the access panel.
11. Reconfigure the computer, if necessary. Refer to the *Computer Setup Guide* for more information.

If you normally lock the Smart Cover Lock, use Computer Setup to relock the lock and enable the Smart Cover Sensor.

## Installing a Hard Drive



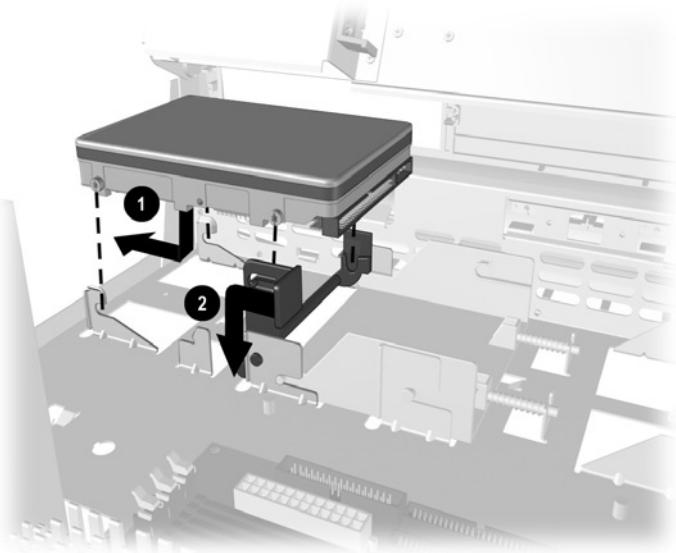
**CAUTION:** To prevent loss of work and damage to the computer or drive:

- If you are inserting or removing a hard drive, turn off the computer. Do not remove a hard drive while the computer is on or in standby mode.
- Before handling a drive, ensure that you are discharged of static electricity. While handling a drive, avoid touching the connector. For more information about preventing electrostatic damage, refer to Appendix E, "Electrostatic Discharge."
- Handle a drive carefully, do not drop it.
- Do not use excessive force when inserting a drive.
- Avoid exposing a hard drive to liquids, temperature extremes, or products that have magnetic fields such as monitors or speakers.
- If a drive must be mailed, place the drive in a bubble-pack mailer or other suitable protective packaging and label the package "Fragile: Handle With Care."

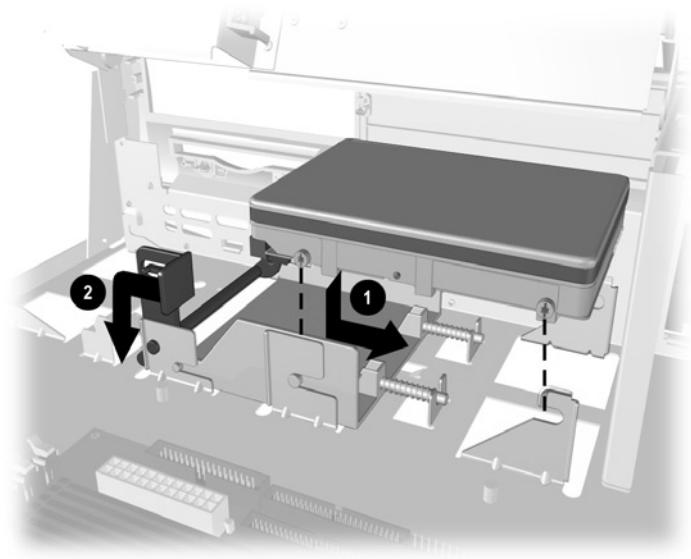
1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, turn off the computer, disconnect the power cord from the electrical outlet, and remove the computer cover.
3. Rotate the drive cage to the upright position.
4. Install two guide screws on each side of the drive.
5. Pull the green release lever into its upright position.

6. Set the hard drive into the hard drive bay by placing the guide screws toward the front of the drive into the slots in the drive cage ①.
7. Place the back of the hard drive down flat in the bay.
8. Push the green release lever down until it locks, securing the hard drive in place ②.

Refer to Appendix B, “Hard Drive Installation Guidelines,” for more information.



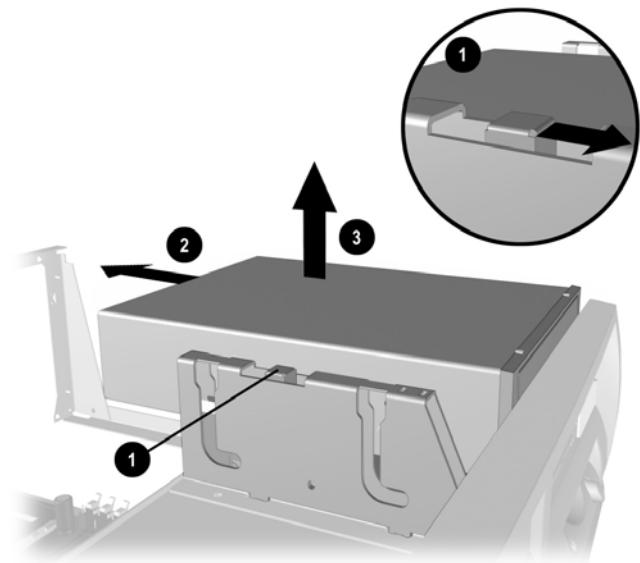
*Installing the Primary Hard Drive*



*Installing the Secondary Hard Drive*

## Removing a CD-ROM Drive from the Drive Cage

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, turn off the computer, disconnect the power cord from the electrical outlet, and remove the computer cover.
3. Disconnect the drive power cable, signal cable, and audio connector.
4. Press the drive release latch (labeled with an arrow) forward ①.
5. At the same time, push the drive toward the back of the computer ②, then lift it out of the drive cage ③.

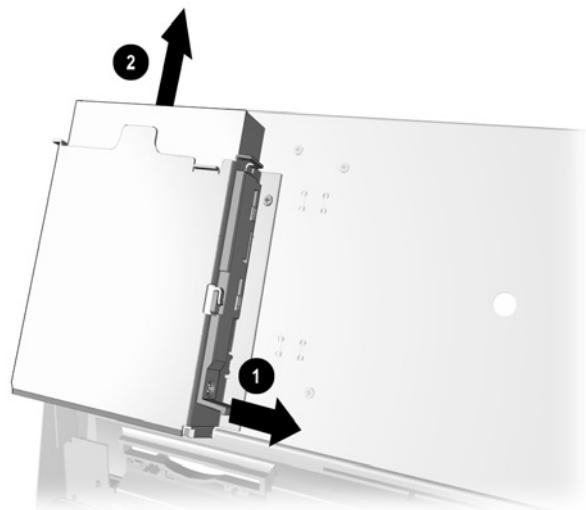


*Removing a CD-ROM Drive from the Drive Cage*

6. Store the drive in antistatic packaging.

## Removing a Diskette Drive from the Drive Cage

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, turn off the computer, disconnect the power cord from the electrical outlet, and remove the computer cover.
3. Rotate the drive cage to its upright position.
4. Disconnect the drive power cable and signal cable.
5. Pull the green drive release latch to the right ①.
6. Slide the drive out of the drive cage ②.

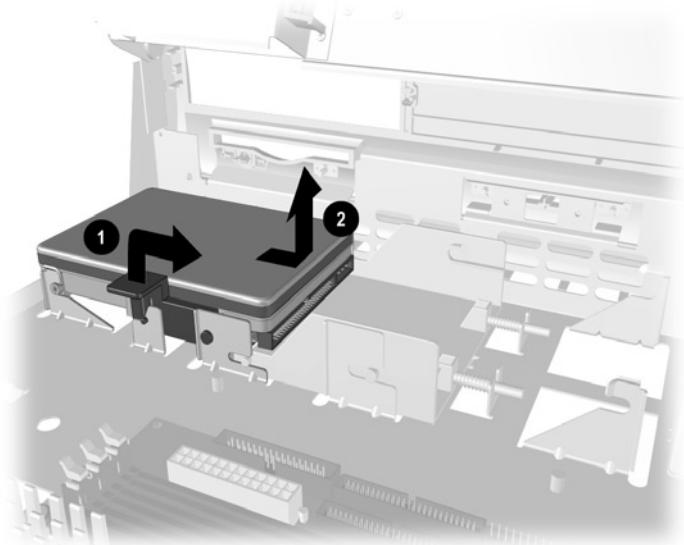


*Removing a Diskette Drive from the Drive Cage*

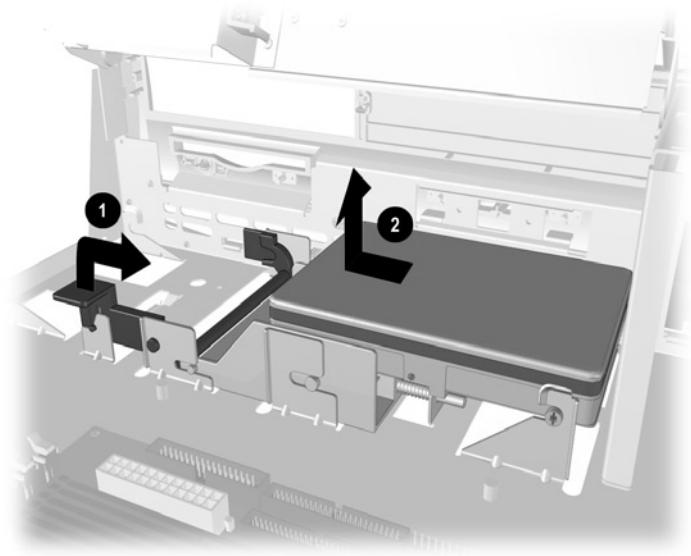
7. Store the drive in antistatic packaging.

## Removing a Hard Drive from the Drive Cage

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, turn off the computer, disconnect the power cord from the electrical outlet, and remove the computer cover.
3. Rotate the drive cage to its upright position.
4. Disconnect the drive power cable and signal cable.
5. Lift up to unlock the green drive release latch ❶.
6. Lift up the back of the hard drive and pull the drive out of the drive cage ❷.



*Removing the Primary Hard Drive from the Drive Cage*



*Removing the Secondary Hard Drive from the Drive Cage*

7. Store the drive in antistatic packaging.

## Smart Cover Lock

The Smart Cover Lock is a software-controllable cover lock. This lock prevents unauthorized access to the internal components when the Smart Cover Lock and setup password are enabled. Your computer ships with the Smart Cover Lock in the unlocked position. For more information about locking the Smart Cover Lock, refer to the *Desktop Management* guide.

## Using the Smart Cover FailSafe Key

If you enable the Smart Cover Lock and cannot enter your password to disable the lock, you will need a Smart Cover FailSafe Key to open the computer cover. You will need the key in any of the following circumstances:

- Power outage
- Startup failure
- PC component (e.g., processor or power supply) failure
- Forgotten password



**CAUTION:** The Smart Cover FailSafe Key is a specialized tool available from Compaq. Be prepared; order this key before you need one.

---

You can obtain the FailSafe Key by any one of the following methods:

- Contact your authorized Compaq reseller or service provider.
- Refer to the Compaq World Wide Web site ([www.compaq.com](http://www.compaq.com)) for ordering information.
- Call the appropriate number listed in the warranty.

To open the computer cover:

1. Shut down the operating system properly, turn off the computer and any external devices, then disconnect the power cord from the electrical outlet.
2. Using the Smart Cover FailSafe Key, remove the top tamper-proof screw, and loosen the bottom tamper-proof screw only enough to allow the computer access panel to be removed.



*Removing the Smart Cover Lock Screws*

3. Remove the computer cover.

To reattach the Smart Cover Lock, secure the lock in place with the tamper-proof screws.

## *appendix A*

# SPECIFICATIONS

<b>Compaq Deskpro EN, Slim Desktop</b>		
Desktop Dimensions		
Height	5.38 in	13.67 cm
Width	17.65 in	44.83 cm
Depth	17.11 in	43.46 cm
Approximate Weight		
Desktop Model	26.0 lb	12 kg
Weight Supported (maximum distributed load)	100.0 lb	45.5 kg
Temperature Range		
Operating	50° to 95°F	10° to 35°C
Nonoperating	-4° to 140°F	-20° to 60°C
Relative Humidity (noncondensing)		
Operating	20 to 80%	20 to 80%
Nonoperating	10 to 90%	10 to 90%
Maximum Altitude (unpressurized)		
Operating	10,000 ft	3048 m
Nonoperating	30,000 ft	9144 m
Power Supply		
Operating Voltage Range	90-132 VAC	180-264 VAC
Rated Voltage Range	100-127 VAC	220-240 VAC
Rated Line Frequency	50-60 Hz	50-60 Hz
Power Output		
	200 W	200 W
Rated Input Current (maximum)		
	6 A	3 A
Heat Dissipation		
Maximum	1050 Btu/hr	265 kg-cal/hr
Nominal	525 Btu/hr	133 kg-cal/hr

## *appendix B*

# HARD DRIVE INSTALLATION GUIDELINES

## Using the Cable-Select Feature with Ultra ATA Devices

Optional drives are available from Compaq in kits that include a special drive cable. The configuration of the drives employs a cable-select feature that identifies the drives as device 0 (primary drive) or device 1 (secondary drive). The computer recognizes device 0 as the drive connected to the short segment of the drive cable (farthest from the system board), and device 1 as the drive connected to the long segment of the drive cable (closest to the system board).

When using an 80 conductor Ultra ATA cable, connect the colored connectors as follows:

- blue—system board (end)
- gray—device 1 (middle)
- black—device 0 (end)

Drive installation requires no jumper setting changes on the existing or optional drives. All Compaq drives have the jumpers preset for cable-select installation.



If installing a second device on the primary controller, you must use an 80 conductor Ultra ATA cable for optimal performance. This cable is standard on select models.

## Installing SCSI Devices

Select models feature a Wide Ultra160 SCSI host adapter that supports up to fifteen wide internal and external SCSI devices. Select models come with an internal SCSI hard drive preinstalled. Additional high-performance SCSI devices can be added to these select models.

### Guidelines for Installing Optional SCSI Devices

When installing additional SCSI devices, you must adhere to the following guidelines:

- The Wide Ultra160 SCSI host adapter supports up to 15 wide SCSI devices.
- Every SCSI device must have a unique identification (ID) number (0 - 15). The SCSI host adapter identifies signals to and from a SCSI device by its SCSI ID number rather than its location. Moving a SCSI device from one position to another on the SCSI chain does not affect the communication between the controller and the SCSI device. The reserved and available SCSI ID numbers for SCSI devices are as follows:
  - 0 is reserved for the hard drive.
  - 1 through 4 are available.
  - 5 is reserved for a CD-ROM drive.
  - 6 is available.
  - 7 is reserved for the SCSI host adapter.
  - 8 - 15 are available.

- Every SCSI chain or circuit must be terminated (closed) at both ends. Termination can be accomplished by using the terminating feature on the device or by using a terminated cable.



Some devices may not have terminating jumpers on the device. Termination on these devices must be achieved with terminated cable.

Turn on an external SCSI device before turning on power to the computer. This enables the system board controller to recognize the external SCSI device and automatically reset. When an external SCSI device is connected to the external SCSI connector on the rear panel of the computer, that device becomes the end of the SCSI chain and must be terminated.

- The system accommodates a combination of internal and external SCSI devices, such as SCSI tape, CD-ROM drives, and hard drives.



When an IDE hard drive and SCSI hard drive are both installed, the system can boot only from the IDE hard drive.

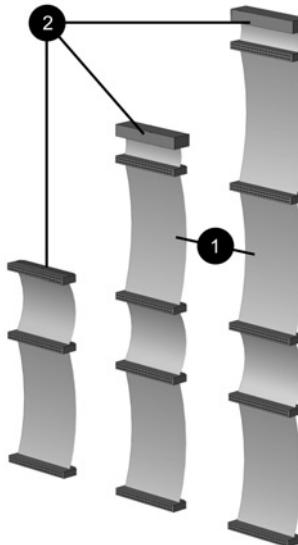


Before you can install a SCSI device, you must first verify the SCSI ID of the device and, if necessary, set the SCSI ID to a new number. Be sure that each SCSI device on the SCSI chain has a unique SCSI ID number.

Second, you must determine if the device ought to have termination enabled or disabled. Set the termination if necessary.

## Cabling for Optional SCSI Devices

Depending on the model, your computer may include one of the SCSI cables shown in the next illustration.



*SCSI Cable Options*

Because your computer comes preconfigured, cable configuration does not become a consideration until you decide to add an optional SCSI device.

- ① Computers with 2-, 3-, and 4-peripheral SCSI cables come with a terminator ② on the end of the cable. The connector on the opposite end of the cable always connects to the system board. All SCSI devices connected with these cables must have their termination disabled.
-  Some devices may not have terminating jumpers on the device. Termination on these devices must be achieved with terminated cable.

When installing a SCSI device, be sure to route the SCSI cable over the expansion board cage, between the raised areas.

For additional information about installing optional SCSI devices, refer to the documentation that comes with the device or contact your Compaq authorized dealer, reseller, or service provider.

## Using **SCSISelect** with SCSI Devices

The Wide Ultra160 SCSI host adapter includes the **SCSISelect** utility to configure the host adapter and to run SCSI disk utilities. To run the **SCSISelect** utility:

- In Post Messages Enabled mode: Press Ctrl+A when the Press <Ctrl><A> for **SCSISelect** Utility message appears during POST.
- In Post Messages Disabled mode: When the Compaq logo screen appears, press any key to exit the logo screen. Immediately after exiting the logo screen, press Ctrl+A to access the **SCSISelect** utility.

A menu appears with the following options:

- **Configure/View Host Adapter Settings**

- SCSI Bus Interface Definitions**
  - Host Adapter SCSI ID
  - SCSI Parity Checking
  - Host Adapter SCSI Termination
- Additional Options**
  - Boot Device Options
  - SCSI Device Configuration
  - Advanced Configuration Options

- **SCSI Disk Utilities**

Lists all SCSI devices and SCSI ID numbers



For information about configuring POST message display status, refer to the *Computer Setup* guide.

## *appendix C*

# BATTERY REPLACEMENT

The battery that comes with your computer provides power to the real-time clock and has a lifetime of about three years. When replacing the battery, use an equivalent 3-volt lithium coin cell battery.



**WARNING:** Your computer contains an internal lithium manganese dioxide, vanadium pentoxide, or alkaline battery or battery pack. There is a risk of fire and burns if the battery pack is not handled properly. To reduce the risk of personal injury:

Do not attempt to recharge the battery.

Do not expose to temperatures higher than 60°C (140°F).

Do not disassemble, crush, puncture, short external contacts, or dispose of in fire or water.

Replace only with the Compaq spare designated for this product.

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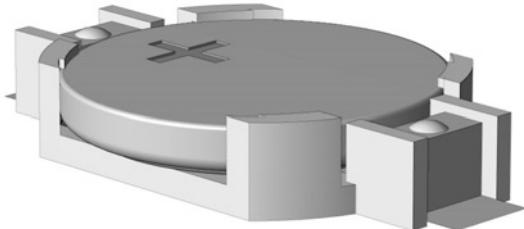
Batteries, battery packs, and accumulators should not be disposed of together with the general household waste. In order to forward them to recycling or proper disposal, please use the public collection system or return them to Compaq, your authorized partners, or their agents.

1. If you have locked the Smart Cover Lock, use Computer Setup to unlock the lock and disable the Smart Cover Sensor.
2. Shut down the operating system properly, turn off the computer and any external devices, disconnect the power cord from the electrical outlet, and remove the computer cover or access panel.



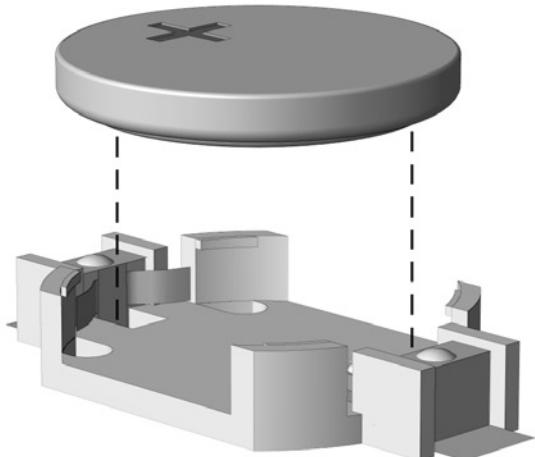
It may be necessary to remove an expansion card to gain access to the battery.

3. Locate the battery and battery holder on the system board, as shown in the following illustration.



*Battery and Battery Holder*

4. Lift the battery out of its holder.



*Removing the Coin Cell Battery*

5. Slide the replacement battery into position, positive side up.

The battery holder automatically secures the battery in the proper position.

6. Replace the computer cover or access panel.
7. Plug in the computer and turn on power to the computer.
8. Reset the date and time, your passwords, and any special system setups, using Compaq Computer Setup. Refer to the *Computer Setup* guide.

If you normally lock the Smart Cover Lock, use Computer Setup to relock the lock and enable the Smart Cover Sensor.

## appendix D

# SECURITY LOCK PROVISIONS

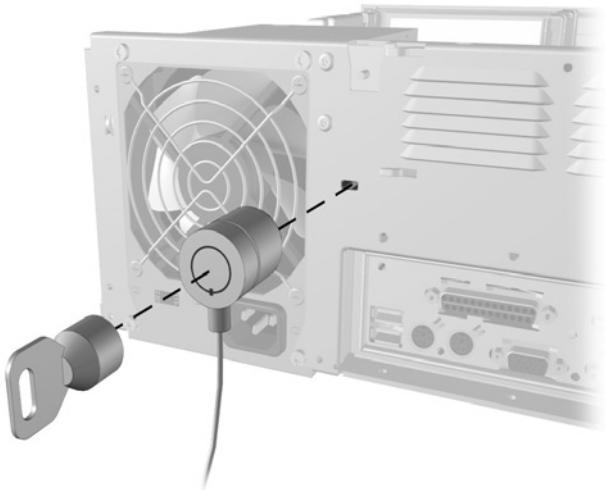
### Installing a Cable Lock

Depending on the model, the rear panel of the computer accommodates a cable lock so that the computer can be physically secured to a work area.

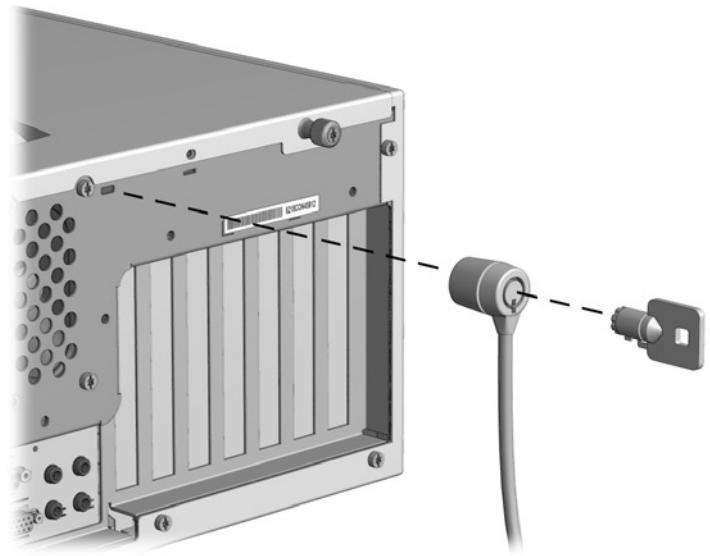


The cable lock can be purchased from Kensington Microware Limited or Compaq authorized dealers, resellers, and service providers. Ask for the Kensington MicroSaver Security System, Model 64068.

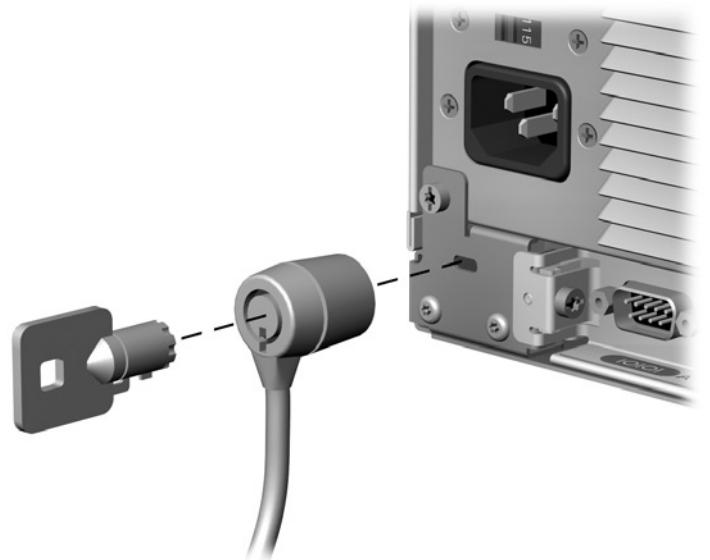
1. Loop the cable around a heavy, fixed object to which you want to secure the computer.
2. Insert the cable lock end of the cable through the loop end of the cable.
3. Insert the lock into the appropriate slot on the rear of the computer and lock with the key.



*Compaq Deskpro EN, Slim Desktop*



*Compaq Deskpro EN, Convertible Minitower*



*Compaq Deskpro EN, Small Form Factor*

## *appendix E*

# ELECTROSTATIC DISCHARGE

A discharge of static electricity from a finger or other conductor may damage system boards or other static-sensitive devices. This type of damage may reduce the life expectancy of the device.

## Preventing Electrostatic Damage

To prevent electrostatic damage, observe the following precautions:

- Avoid hand contact by transporting and storing products in static-safe containers.
- Keep electrostatic-sensitive parts in their containers until they arrive at static-free workstations.
- Place parts on a grounded surface before removing them from their containers.
- Avoid touching pins, leads, or circuitry.
- Always be properly grounded when touching a static-sensitive component or assembly.

## Grounding Methods

There are several methods for grounding. Use one or more of the following methods when handling or installing electrostatic-sensitive parts:

- Use a wrist strap connected by a ground cord to a grounded workstation or computer chassis. Wrist straps are flexible straps with a minimum of 1 Mohm +/- 10 percent resistance in the ground cords. To provide proper ground, wear the strap snug against the skin.
- Use heelstraps, toestraps, or bootstraps at standing workstations. Wear the straps on both feet when standing on conductive floors or dissipating floor mats.
- Use conductive field service tools.
- Use a portable field service kit with a folding static-dissipating work mat.

If you do not have any of the suggested equipment for proper grounding, contact your Compaq authorized dealer, reseller, or service provider.



For more information on static electricity, contact your Compaq authorized dealer, reseller, or service provider.

## *appendix F*

# ROUTINE COMPUTER CARE AND SHIPPING PREPARATION

### Routine Computer Care

Follow these suggestions to take care of your computer and monitor:

- Operate the computer on a sturdy, level surface. Leave a 3-inch (7.6-cm) clearance at the back of the system unit and above the monitor to permit the required airflow.
- Never operate the computer with the cover or side panel removed.
- Never restrict the airflow into the computer by blocking the front vents or air intake. Do not place the keyboard, with the keyboard feet down, directly against the front of the desktop unit as this also restricts airflow.
- Keep the computer away from excessive moisture, direct sunlight, and extremes of heat and cold. For information about the recommended temperature and humidity ranges for your computer, refer to Appendix A, "Specifications," in this guide.
- Keep liquids away from the computer and keyboard.
- Never cover the ventilation slots on the monitor with any type of material.

- Turn off the computer before you do either of the following:
  - Wipe the exterior of the computer with a soft, damp cloth as needed. Using cleaning products may discolor or damage the finish.
  - Occasionally clean the air vents on the front and back of the computer. Lint and other foreign matter can block the vents and limit the airflow.

## CD-ROM Drive Precautions

Be sure to observe the following guidelines while operating or cleaning your CD-ROM drive.

### Operation

- Do not move the drive during operation. This may cause it to malfunction during reading.
- Avoid exposing the drive to sudden changes in temperature, as condensation may form inside the unit. If the temperature suddenly changes while the drive is on, wait at least one hour before you turn off the power. If you operate the unit immediately, it may malfunction while reading.
- Avoid placing the drive in a location that is subject to high humidity, extreme temperatures, mechanical vibration, or direct sunlight.

### Cleaning

- Clean the panel and controls with a soft, dry cloth or a soft cloth lightly moistened with a mild detergent solution. Never spray cleaning fluids directly on the unit.
- Avoid using any type of solvent, such as alcohol or benzene, which may damage the finish.

### Safety

If any object or liquid falls into the drive, immediately unplug the computer and have it checked by an authorized Compaq service provider.

# Shipping Preparation

Follow these suggestions when preparing to ship your computer:

1. Back up the hard drive files onto PD discs, tape cartridges, or diskettes. Be sure that the backup media is not exposed to electrical or magnetic impulses while stored or in transit.



The hard drive locks automatically when the system power is turned off.

2. Remove and store any program diskettes from the diskette drives.
3. Insert a blank diskette into the diskette drive to protect the drive while in transit. Do not use a diskette on which you have stored or plan to store data.
4. Turn off the computer and external devices.
5. Disconnect the power cord from the electrical outlet, then from the computer.
6. Disconnect the system components and external devices from their power sources, then from the computer.



Ensure that all boards are seated properly and secured in the board slots before shipping the computer.

7. Pack the system components and external devices in their original packing boxes or similar packaging with sufficient packing material to protect them.



For environmental nonoperating ranges, refer to Appendix A, "Specifications," in this guide.

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